POLITEKNIK KESEHATAN TANJUNGKARANG
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Formulasi dan Uji Efektivitas Sediaan Pencuci Mulut (*Mouthwash*) Ekstrak Kulit Buah Salak (*Salacca zalacca* (Gaertn.) Voss) Terhadap *Streptococcus mutans*

xvii + 73 halaman, 8 tabel, 8 gambar, dan 12 lampiran

ABSTRAK

Mulut berperan penting dalam aktivitas sehari-hari, dan karies gigi dapat mengganggu fungsi mulut. Karies gigi, disebabkan oleh *Streptococcus mutans*, terjadi akibat plak yang mengubah gula menjadi asam, merusak enamel dan dentin gigi. Obat kumur sering digunakan untuk mengatasi masalah ini, namun bahan kimia sintetik dapat berdampak buruk jika digunakan jangka panjang. Tren "*back to nature*" mendorong penggunaan bahan alami, termasuk *mouthwash* dari ekstrak kulit buah salak (*Salacca zalacca*), yang mengandung flavonoid dan memiliki sifat antimikroba.

Penelitian ini bertujuan untuk membuat formula dan menguji efektivitas *mouthwash* dengan ekstrak kulit buah salak untuk mengurangi aktivitas *Streptococcus mutans* dalam mulut. Formulasi *mouthwash* dibuat dengan konsentrasi ekstrak 0%, 2,5%, 5%, dan 7,5%. Evaluasi dilakukan melalui uji organoleptik, homogenitas, pH, dan uji stabilitas. Uji efektivitas antibakteri terhadap *Streptococcus mutans* dilakukan pada formulasi *mouthwash* yang memenuhi persyaratan dan paling disukai, kemudian dibandingkan dengan *mouthwash* yang tersedia di pasaran.

Pengujian organoleptik menunjukkan konsentrasi ekstrak yang lebih tinggi menghasilkan warna lebih pekat. Aroma dan rasa *mouthwash* berasal dari menthol dan *oleum peppermint.* Semua formula mouthwash menunjukkan homogenitas yang baik dan pH antara 4,7-4,8, tidak memenuhi persyaratan. Uji stabilitas dengan metode *freeze-thaw* menunjukkan stabilitas fisik yang baik tanpa perubahan signifikan selama pengujian. Berdasarkan hasil pengujian efektivitas antibakteri, *mouthwash* ekstrak kulit buah salak menunjukkan tidak dapat menghambat pertumbuhan *Streptococcus mutans*.

Kata Kunci : *Mouthwash,* Ekstrak kulit salak, *Streptococcus mutans*
Daftar Bacaan : 55 (1979-2024)

TANJUNGKARANG HEALTH POLYTECHNIC
PHARMACEUTICAL DEPARTMENT

Final Project Report, July 2024

Bintang Falah Terang Jaya

Formulation and Effectiveness Testing of Mouthwash Preparation with Salak Fruit Peel Extract (Salacca zalacca* (Gaertn.) Voss) *Against Streptococcus mutans

xvii + 73 pages, 8 tables, 8 figures, and 12 appendices

ABSTRACT

The mouth plays a crucial role in daily activities, and dental caries can disrupt its function. Dental caries, caused by Streptococcus mutans, occur due to plaque that transforms sugar into acid, damaging the enamel and dentin of the teeth. Mouthwash is often used to address this issue, but synthetic chemicals can have adverse effects when used long-term. The "back to nature" trend encourages the use of natural ingredients, including mouthwash made from snake fruit (Salacca zalacca) peel extract, which contains flavonoids and has antimicrobial properties.

This study aims to formulate and test the effectiveness of mouthwash with snake fruit peel extract to reduce the activity of Streptococcus mutans in the mouth. Mouthwash formulations were made with extract concentrations of 0%, 2.5%, 5%, and 7.5%. Evaluation was conducted through organoleptic tests, homogeneity, pH, and stability tests. The antibacterial effectiveness against Streptococcus mutans was tested on the most preferred and compliant mouthwash formulation and compared with commercially available mouthwash.

Organoleptic testing showed that higher extract concentrations resulted in a darker color. The mouthwash's aroma and taste came from menthol and peppermint oil. All mouthwash formulations demonstrated good homogeneity and a pH between 4.7-4.8, which did not meet the required standards. Stability tests using the freeze-thaw method showed good physical stability without significant changes during the test. Based on antibacterial effectiveness tests, the snake fruit peel extract mouthwash did not inhibit the growth of Streptococcus mutans.

Keywords : Mouthwash, Salak peel extract, Streptococcus mutans
Reading List : 55 (1979-2024)